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A CONCEPTUAL TO DEVELOP THE HEALTH EDUCATION ASSESSMENT MODULEUSING MODEL MEYER (1988) TO IMPLEMENT IN CLASSROOM ASSESSMENT

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Abstract

Researchers have identified that there is a significantly less assessment module for Health Education subject to assess lower primary students in classroom assessment. This burdens teachers who teach Health Education to assess the knowledge of lower primary students. Not only that, but there are also statements where teachers do not have time to produce classroom assessment materials(Norazilawati, Noorzeliana, Mohd Sahandri dan Saniah, 2015). They also lack knowledge in the production of assessment materials (Siti Esah, Ahmad Fuaad, Azali dan Omar, 2013).To save teachers time and to reduce the workload of teachers who teach Health Education subjects for lower primary students, researchers have developed a Health Education assessment module that can be used by teachers to perform classroom assessment. Researchers have used the steps found in the Mayer 1988 model as a guide to developing the Health Education assessment module. The Mayer model has 13 steps to develop a module. The constructs and items in the module were designed using the Fuzzy Delphi technique and were implemented in a school for eight weeks by a Health Education expert teacher. The steps found in the Mayer 1988 model are indeed suitable for using the Education assessment module.

Keywords: *Assessment module, Health Education, Model Mayer 1988.*

INTRODUCTION

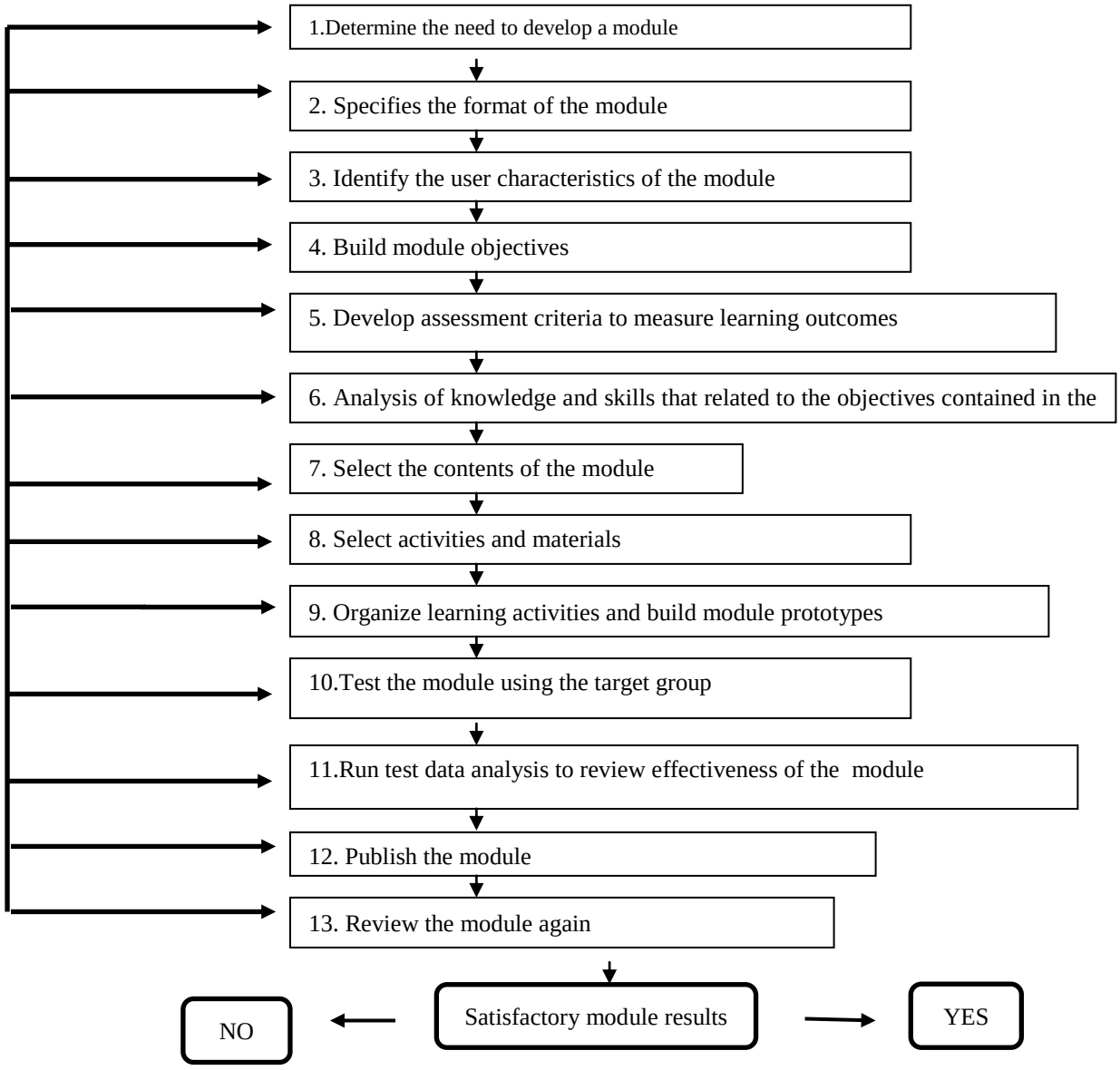
Referring to the Professional Examination Letter 14/2018(surat peperiksaan iktisas bil 14/2018), mid-year and year-end examinations have been abolished for all subjects for lower primary school students. The concept of exam abolition is also to create a more conducive and exciting teaching and learning situation. With the abolition of examinations among lower primary students, classroom assessment has become an assessment tool to assess student performance. The practical assessment can provide information to teachers, administrators, parents and students, related to students' knowledge and understanding. The implementation of classroom assessment by teachers allows schools and parents to get qualitative and quantitative feedback about students (Ahmad and Mohamod, 2016). Although in the Professional Examination Letter 14/2018, has stated various examples of activities such as simple projects, games, quizzes, storytelling and role play for the implementation of classroom assessment according to analysis needs data of Kumaran, Azali & Szarmila (2020), there is still 46.7 percent of teachers do not implement classroom assessment after the teaching. Ahmad and

Mohamod (2016),the study found that the implementation of assessment in schools has not fully achieved the goal. To achieve the goals of classroom assessment for Health Education subject researchers have developed a Health Education assessment module for teachers who teach lower primary students to perform classroom assessment transparently to know the depth of students' knowledge in the subject. The module was developed using the steps found in the model Mayer 1988.

METHODS

Researchers have received the expertise of 20 experts to design the constructs and items found in the Health Education assessment module. Once all the constructs and items have been designed, the methodology used by the researcher to develop the module is 13 steps found in the Mayer model 1988. The development steps found in the Mayer model are as follows in table 1:

Table 1: Flow chart of the development of the Health Education assessment module



ANALYSIS

There are thirteen module development steps proposed in the Mayer (1988) module development model. The proposed module development steps are to determine the need to develop the module, determine the module format, identify the characteristics of the module users, build the module objectives, build evaluation criteria to measure learning outcomes, knowledge analysis and skills related to the objectives contained in the module select module content, special activities and materials, organize learning activities, and develop module prototypes, test modules using target groups, run test data analysis to review modules, publish modules or even review modules. Researchers explain each step found in the model Mayer 1988 that used to build the Health Education assessment module that can be used by the teacher for classroom assessment.

1. *Determine the need to build a module*

Researchers have implemented needs analysis before starting a study entitled Health Education assessment module for lower primary teachers in the implementation of classroom assessment. Researchers have used the survey method by using a questionnaire on 291 teachers who teach health education to find out the needs of the module. Needs analysis proves that there is indeed a need to develop the module. A total of 93.7% of the teachers agreed with the development of the module. This study is critical and got the need to develop the module because the assessment materials for Health Education relatively lack in the market. This study will help teachers to carry out classroom assessment with ease.

2. *Specifies the format of the module*

Researchers have determined the general format of the module by adapting and manipulating the module format guidelines of UniversitiTun Hussein Onn Malaysia (UTHM). Standard formats are wording, spacing, front cover, title page, preface, attachment, and back cover. Also, the diagrams and terms used in the module are given careful attention to the development of the module by the researcher. The module was also developed using A4 size.

3. *Identify the user characteristics of the module*

Researchers have identified user characteristics before developing Health Education assessment modules for lower primary teachers in the implementation of classroom assessment. The user characteristics of the module have been identified through the results of the needs analysis. Most consumers specialize in Physical Education and Health. Therefore, users can use the module correctly and accurately. The next feature of consumers is that they also have time constraints to develop assessment materials for Health Education subjects. Therefore, the users of the module, namely Health Education teachers who teach year one, really need the module to perform a class-based assessment

4. *Build module objectives*

According to Amani (2014), objectives should be listed for each module developed. Each module developed should have an objective. The objective is an essential aspect. It is essential because, with objective only, researchers can measure learning outcomes at the end of teaching or assessment. There are several objectives for the Health Education assessment module for lower primary teachers in the implementation of classroom assessment. The objective contained in the module is that teachers can assess the knowledge of Student Health Education by using this assessment module, this module can be recording material for teachers to know the level of student knowledge on the subject of Health Education, teachers can know the weaknesses of students immediately through the assessment module this and can implement reinforcement and teachers can strengthen the student domain that is cognitive, affective and psychomotor

students through the use of this assessment module in the subject of Health Education. These objectives are built based on the needs analysis questions of this study.

5. *Build assessment criteria to measure learning outcomes*

Researchers have developed various criteria to measure the learning outcomes found in the Health Education assessment module for lower primary teachers in the implementation of classroom assessment. Researchers have provided various types of exercises with bands of one to six to measure student learning outcomes. The evaluation criteria that is the type of training found in the module is built based on the theory of Bloom's Taxonomy (1956). The domains found in theory are domains such as cognitive, affective and psychomotor and the sub-sub are adapted to form the questions built in the module. For an explanation of the domain and its sub, researchers have also provided a domain mastery guide. This will provide a clear picture for teachers who use the module in the implementation of classroom assessment. Also, the researchers have prepared the implementation schedule and the student learning development guide in the module to ensure that Health Education teachers carry out the assessment of classroom assessment in lower primary accurately and correctly to measure student learning outcomes.

6. *Analysis of knowledge and skills related to the objectives*

Researchers have listed several objectives in the Health Education assessment module for lower primary teachers in the implementation of classroom assessment after analyzing the knowledge and skills of teachers who teach lower primary Health Education in the needs analysis phase. The four objectives constructed in the module are adapted from the questions addressed in the needs analysis phase questionnaire. With this, the researcher can analyze the knowledge and skills of the respondents of the users of the module.

7. *Select the contents of the module*

The purpose of this assessment module is to ensure that students master the knowledge that should be mastered. Therefore, the content of the Health Education assessment module for lower primary teachers in the implementation of this classroom assessment is essential. Researchers have selected the contents of the module based on the annual teaching plan (RPT) of Health Education year one, the standard document of curriculum and assessment (DSKP) of Health Education year one, and the textbook of Health Education year one. Based on the RPT, DSKP researchers have created nine units in the assessment module. Not only that, the students' domains, namely Cognitive, Affective and Psychomotor, are also given attention by researchers when selecting content. Researchers also ensure that each student masters these domains in each unit through the selection of correct and accurate content.

8. *Select activities and materials*

Researchers have selected activities that are assessment questions found in the Health Education assessment module for lower primary teachers in the implementation of classroom assessment by referring to the latest Health Education textbooks. Not only that, but the researchers have also referred to the lower primary Health Education training book published by Sasbadi to build more appropriate and robust questions. Although textbooks and exercise books are referred to select or construct assessment questions, researchers still ensure that the questions contained in the module coincide with the theory used, which is Bloom's Taxonomy (1956). Researchers also diversify the activities found in the module according to RPT, DSKP and Health Education textbooks.

Selection of auxiliary materials is one of the essential steps in the construction of the module.

The activity materials in the module are adapted from Health Education textbooks and Sasbadi Health Education training books. Although some materials are adapted and manipulated from the primary source, the researchers still design most of the activity materials using Adobe Photoshop version 16 software by themselves, such as activity diagrams. Researchers ensure that the diagrams included in the module are in line with the module aids namely annual lesson plan (RPT), curriculum and assessment standard documents (DSKP) and Health Education textbook year one

9. *Organize learning activities and build module prototypes*

Researchers have compiled learning activities that are constructs and items found in the Health Education assessment module for lower primary teachers in the implementation of classroom assessment according to the ranking findings using *Fuzzy Delphi* technique in the design phase of the module. As already explained in the design phase of each construct and item contained in the module has obtained the prior consent of the expert. After the activities are sorted by ranking, the module is ready for implementation and evaluation. The module has been built in the following order:

- The front page of the assessment module.
- Table of contents.
- Introduction to Health Education.
- Title of Health Education assessment module (Unit 1 to unit 9).
- Health Education Objectives.
- Objectives of the Health Education assessment module.
- Domain mastery guide (Cognitive, Affective and Psychomotor).
- Assessment categories and keywords (Question instruction form).
- Assessment methods in the Health Education assessment module (Reporting template).
- Assessment activities.
- Proposed implementation schedule for the use of Health Education assessment modules.
- Student learning development guide.
- Daily lesson plan (8 Weeks)

10. *Test the module using the target group*

The target group for the Health Education assessment module in the implementation of classroom assessment is students. Researchers tested the module from two aspects, namely the effectiveness of the module and the usability of the module. To see the effectiveness of the module, researchers have used quasi-experiments by applying pre-test and post-test group control tests (Non-Equivalent Pre Test and test Control Group Design) (Chua, 2006; &Wiersma, 1991). All students in the experimental group and the control group sat for the pre-test and post-test. Researchers have used 60 lower primary students to see the effectiveness of the module. The overall design of the quasi-experimental study is summarized in table 2.

Table 2: Experimental design model

Group	Ujian Pra	Rawatan	Ujian Pos
Experiment	O_1	X	O_2
Control	O_3	-	O_4

X: Quasi-experiments using health education assessment modules
-: Control (Does not use Health Education assessment module)
O1 and O3: Pre-Test

O2 and O4: Post Test

11. Run test data analysis to review modules

Researchers have used inferential statistics (ANCOVA) to analyze exploratory data from the aspect of effectiveness of Health Education assessment module for lower primary teachers in the implementation of classroom assessment

12. Publish module

After analyzing the exploratory data analyzing the effectiveness aspects of the module,then the last step is to publish the Health Education assessment module.

13. Review the module

Suppose the effectiveness data of the module is not satisfactory. In that case, the researcher should review the development steps of the Health Education assessment module for lower primary teachers in the implementation of classroom assessment. Development measures such as module format, module objectives, evaluation criteria to measure module learning outcomes, analysis of knowledge and skills concerning module objectives, module content and activities and module materials will be reviewed by researchers to publish quality and appropriate modules.

DISCUSSION AND CONCLUSION

The researcher has carefully explained all development measures. Researchers have developed a quality assessment module using the Mayer 1988 model. The module can be used during the implementation of classroom assessment because the effectiveness value of the experimental group is very high compared to the control group. The steps found in the model are very suitable for developing any module. Researchers can conclude that a very high-quality module can be developed if every step found in the model Mayer 1988 areadequately followed. Researchers who will venture into the field of research can use the model Mayer 1988 if they want to develop a quality module. Hope future researchers will develop more modules for elective subjects such as Physical Education and Health Education for upper primary students and elementary school students.

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